

**Added *F. albicaulis* var. *modocensis* to CRPR 2B.3 and *F. albicaulis* var. *cusickii* to CBR of the CNPS Inventory on December 10, 2018**

**Rare Plant Status Review:**

***Frasera albicaulis* var. *modocensis* – Proposed Addition to California Rare Plant Rank 2B.3 G5T3T4 / S2S3**

***Frasera albicaulis* var. *cusickii* – Proposed as Considered But Rejected**

Kaitlyn Green (CNPS), Aaron E. Sims (CNPS), Roxanne Bittman (CNDDDB), and Seth Kauppinen (CNPS)  
October 9, 2018

Changes made to the original document are in blue text.

***Frasera albicaulis* var. *modocensis***

**Background and Taxonomy**

*Frasera albicaulis* Griseb. var. *modocensis* (H. St. John) N.H. Holmgren is a perennial herb in the Gentianaceae known from northeastern California and southern Oregon, east to Nevada. It is included in the *Jepson eFlora* (Baldwin 2012). The *Flora of North America North of Mexico* treatment of Gentianaceae has not yet been published. *Frasera albicaulis* var. *modocensis* was originally described in 1941 as *Swertia modocensis* (H. St. John); it was changed to a variety of *F. albicaulis* in 1984 by Holmgren in the *Intermountain Flora* (Cronquist et al. 1984). In California *F. albicaulis* var. *modocensis* is most similar to *F. albicaulis* var. *nitida* and can be distinguished by the faces of the abaxial leaves being puberulent (vs. glabrous leaves), with the larger leaves generally obtuse to round at the tip (vs. the larger leaves generally acute at the tip in var. *nitida*). Also, although Baldwin (2012) indicates var. *nitida* as occurring in the Great Basin Province (including Modoc Plateau and Warner Mountains), there are no collection records indicating the occurrence of var. *nitida* in this region (CCH 2018), so they appear to be allopatric.

**Ecology**

In California, *Frasera albicaulis* var. *modocensis* mostly occurs in openings within ~~pinyon~~ and juniper woodland and Great Basin scrub, and has occasionally been reported growing in upper montane coniferous forest (CCH 2018). It is known in California from an approximate elevation of 900 to 1,750 meters (Google Inc. 2015; CCH 2018), and blooms from May to July (Baldwin 2012; CCH 2018).

**Distribution and Abundance**

*Frasera albicaulis* var. *modocensis* is currently known from approximately 18 occurrences across Siskiyou, ~~Shasta~~, Modoc, and Lassen counties. Of the 18 occurrences, 10 (10/18, ~56%) are considered historical (occurrences not seen in over 20 years are considered historical by CNDDDB), with one occurrence having an unknown date. Six occurrences are located in the Modoc National Forest, two are located on BLM land, and there is one occurrence located in each of Lava Beds National Monument, Ash Creek Wildlife Area, Klamath National Forest, Lassen National Forest, and Shasta-Trinity National Forest. The remaining five occurrences are located on land of unknown ownership.

**Status**

*Frasera albicaulis* var. *modocensis* is currently not ranked (SNR) in Oregon and Nevada, and has a Global Status of G5T3T4 (NatureServe 2018).

**Threats**

There are no known direct threats to *Frasera albicaulis* var. *modocensis* at this time. The Warner Mountains and adjacent parts of the Columbia Plateau were subject to intense livestock grazing during the 19th and early 20th centuries—a pattern that continues, albeit to a lesser degree. Together with ongoing fire suppression, this has resulted in pronounced shifts in vegetation community membership and structure, with potential ramifying effects for native species like *F. albicaulis* var. *modocensis* (Vale 1977). In addition to this lasting anthropogenic influence, models of climate change predict an advance of evergreen conifer forest in the cold desert regions of the Modoc Plateau and northeastern Sierra Nevada, along with spreading grasslands in more mesic areas presently dominated by mixed evergreen forest and shrubland. This floristic re-assortment will be accompanied by uniform increases in standing biomass, likely resulting in greater fire severity during increasingly xeric summers (Lenihan et al. 2003).

**Summary**

Based on the available information, CNPS and CNDDDB recommend adding *Frasera albicaulis* var. *modocensis* to California Rare Plant Rank 2B.3 of the CNPS Inventory. If knowledge on the distribution, threats, and rarity status of *F. albicaulis* var. *modocensis* changes in the future, we will re-evaluate its status at that time.

***Frasera albicaulis* var. *cusickii***

In 2016, *Frasera albicaulis* var. *cusickii* was proposed for addition to the CNPS *Inventory* based on a single collection from Whitehorse Mountains, Modoc County, California (*Bartholomew 4412*, NY189421; CCH 2018). The specimen includes a note indicating that it was not identified as *F. albicaulis* subsp./var. *cusickii* but was filed under that taxon. In correspondence with the assistant curator at NYBG, the specimen sheet is not annotated past the species, and the assistant curator was unable to identify the plant further (Pace, pers. comm. 2018). Furthermore, Jim Pringle (pers. comm. 2018) has looked at this specimen previously for the *Flora of North America North of Mexico* project, and while he did not annotate the specimen, he decided it was not subsp./var. *cusickii*.

*Frasera albicaulis* var. *cusickii* is currently only known from central-eastern Oregon and southwestern Idaho (CPNWH 2018; SEINet 2018; USDA 2018). The nearest occurrence to California is from Steens Mountain, Harney County, Oregon (*Leach 779*, ORE71077; CPNWH 2018), approximately 135 air-km to the northeast of the California border (Google Inc. 2015).

Based on the available information, CNPS and CNDDDB recommend rejecting *Frasera albicaulis* var. *cusickii* from inclusion in the CNPS Inventory, and will instead place it on the Considered But Rejected list. If additional, reliable specimens of var. *cusickii* from California surface, we will re-evaluate its stats at that time.

**Recommended Actions**

CNPS: Add *Frasera albicaulis* var. *modocensis* to CRPR 2B.3; CBR *Frasera albicaulis* var. *cusickii*

CNDDDB: Add *Frasera albicaulis* var. *modocensis* to G5T3T4 / S2S3

Sent to: NW, MP, B. Baldwin, J. Doyen, J. Kartesz, K. Morse, M. Pace, J. Pringle on 10/09/2018

### Draft CNPS Inventory Records

*Frasera albicaulis* Griseb. var. *modocensis* (H. St. John) N.H. Holmgren

Modoc green-gentian

Gentianaceae

CRPR 2B.3

Lassen, Modoc, ~~Shasta~~, Siskiyou

Nevada, Oregon

Swains Hole (643A) 4012163, Dixie Peak (660A) 4012181, Big Swamp (677A) 4112121, Ash Creek Butte (698A) 4112241, Callahan (701D) 4112237, Davis Creek (708A) 4112063, Whittemore Ridge (709B) 4112066, Rimrock Lake (711B) 4112162, Caldwell Butte (712B) 4112164, Penoyar (715A) 4112261, Lake Annie (724A) 4112081, Larkspur Hills (724D) 4112071, McGinty Point (725C) 4112074, South Mountain (726C) 4112076, Hager Basin (727D) 4112077, Dewey Gulch (733D) 4112273

~~Pinyon and juniper woodland~~, Great Basin scrub, upper montane coniferous forest (sometimes)/openings; elevation 900-1750 meters.

Perennial herb. Blooms May to July.

See *The American Midland Naturalist* 26(1): 18-19 (1941) for original description, and *Intermountain Flora* 4: 573 (1984) for revised nomenclature.

*Frasera albicaulis* var. *cusickii*

Considered But Rejected: Does not occur in CA.

### Literature Cited

Baldwin, B. 2012. *Frasera albicaulis* var. *modocensis*. In: Jepson Flora Project (eds.), *Jepson eFlora*. Website <http://ucjeps.berkeley.edu/IJM.html> [accessed 11 September 2018].

[CCH] Consortium of California Herbaria. 2018. Data provided by the participants of the Consortium of California Herbaria. Regents of the University of California, Berkeley. Website <http://ucjeps.berkeley.edu/consortium/> [accessed 11 September 2018].

[CPNWH] Consortium of Pacific Northwest Herbaria. 2018. Data provided by the participants of the Consortium of Pacific Northwest Herbaria. University of Washington Herbarium. Website <http://www.pnwherbaria.org/data/search.php> [accessed 11 September 2018].

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Sent to: NW, MP, B. Baldwin, J. Doyen, J. Kartesz, K. Morse, M. Pace, J. Pringle on 10/09/2018

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